

ABSTRACT

A balloon catheter is used in a closed-loop heat exchange system for manipulating the temperature of a patient. The balloon catheter is positioned in the stomach of the patient, and then expanded with a heat exchange fluid delivered  
5 through a lumen formed in the shaft of the catheter. The balloon catheter comes into contact with the wall of the stomach, and the stomach substantially conforms around the expanded balloon catheter. The heat exchange fluid is allowed to flow continuously into and out of the balloon catheter. Heat is exchanged between the  
10 balloon catheter and the stomach so as to controllably alter the temperature of at least a portion of the patient. Anti-shivering mechanisms and automatic control based on temperature feedback from the patient may be used in connection with the heat exchange system.